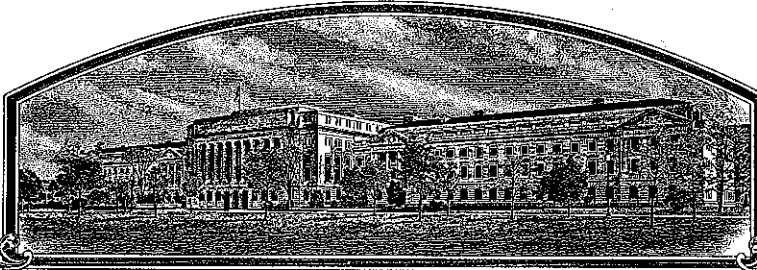


No.

200000022



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Mission Ranches

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

LETTUCE

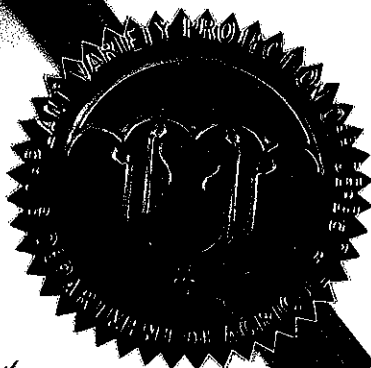
'Calypso'

In Testimony Whereof, I have herunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this nineteenth day of September, in the year two thousand and five.

Attest:


Commissioner
Plant Variety Protection Office
Agricultural Marketing Service


Secretary of Agriculture



U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY DIVISION - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

RAD 01/18/200


1. NAME OF APPLICANT(S) (as it is to appear on the Certificate) Mission Ranches		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER Tango DMR		3. VARIETY NAME Avalon Calypso	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) 100 Broadway King City, CA 93930 USA		5. TELEPHONE (include area code) (831) 385-1263		FOR OFFICIAL USE ONLY PVPO NUMBER 200000022	
		6. FAX (include area code) (831) 385-3340		DATE Oct 25, 1999	
7. GENUS AND SPECIES NAME Lactuca sativa		8. FAMILY NAME (Botanical) Compositae		FILING AND EXAMINATION FEE: \$ 2450.00 DATE Oct. 25, 1999	
9. CROP KIND NAME (Common name) Lettuce				CERTIFICATION FEE: \$ 682.00 DATE July 28, 2000	
10. IF THE APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) (Common name) Partnership		11. IF INCORPORATED, GIVE STATE OF INCORPORATION		12. DATE OF INCORPORATION	
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS Dean Gregg 100 Broadway King City, CA 93930		14. TELEPHONE (include area code) (831) 809-3959		15. FAX (include area code) (831) 726-2961	
16. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)					
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of the Variety d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Applicant's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,450), made payable to "Treasurer of the United States" (Mail to PVPO)					
17. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY, AS A CLASS OF CERTIFIED SEED? (See Section 43(a) of the Plant Variety Protection Act) <input type="checkbox"/> YES (If "yes," answer items 18 and 19 below) <input checked="" type="checkbox"/> NO (If "no," go to item 20)					
18. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input type="checkbox"/> NO			19. IF "YES" TO ITEM 18, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED		
20. HAS THE VARIETY OR A HYBRID PRODUCED FROM THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETING IN THE U.S. OR OTHER COUNTRIES? <input type="checkbox"/> YES (If "yes," give names of countries and dates) <input checked="" type="checkbox"/> NO					
21. The applicant(s) declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned applicant(s) (are/are) the owner(s) of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Applicant(s) (are/are) informed that false representation herein can jeopardize protection and result in penalties.					
SIGNATURE OF APPLICANT (Owner(s)) 			SIGNATURE OF APPLICANT (Owner(s))		
NAME (Please print or type) Stan Pura			NAME (Please print or type)		
CAPACITY OR TITLE Partner		DATE 10/21/99		CAPACITY OR TITLE	
				DATE	

EXHIBIT ARAD
01/18/2001

Calyпсо

Avalon is a green leaf type of lettuce developed exclusively for the "baby leaf" salad mix market. Avalon is the result of a cross made in 1995, between Tango and the F₁ of Dark Lollo Rosa x El Dorado.

Breeding methods used were a combination of backcrossing and mass selection.

- | | |
|----------------|---|
| October 1995 - | F ₁ screened for downy mildew resistance |
| August 1996 - | BC ₁ screened for downy mildew resistance |
| April 1997 - | BC ₂ screened for downy mildew resistance |
| August 1997 - | BC ₂ S ₁ screened for mildew resistance. Resistant seedlings selected for Tango type. |
| April 1998 - | BC ₂ S ₂ lines indexed for mildew. Homozygous lines were chosen based on leaf type. Selected lines were massed. |
| August 1998 - | BC ₂ S ₃ ; mass selection for leaf type |
| April 1999 - | BC ₂ S ₄ ; observation for uniformity |
| August 1999 - | BC ₂ S ₅ ; observation for uniformity |

Avalon has been uniform and stable for two generations (S₄, S₅); No variants have been observed.

Lettuce Application No. 200000022, "Calypso"

supplement to Exhibit B

Calypso is resistant to CA pathotype I,IIA,IIB,III,IV and V and is believed to carry downy mildew gene Dm18. Tango is not resistant to CA pathotype I,IIA,IIB,III,IV and V and is not known to carry any downy mildew resistant genes.

200000022

JRM
12/10/04

EXHIBIT B
(supplement)



TANGO

CALYPSO

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE DIVISION
OBJECTIVE DESCRIPTION OF VARIETY
LETTUCE *Lactuca sativa*

EXHIBIT

NAME OF APPLICANT (S) Mission Ranches ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) 100 Broadway King City, CA 93930	FOR OFFICIAL USE ONLY PVPO NUMBER 200000022 JRM 12/10/04 VARIETY NAME Calypso EXPERIMENTAL DESIGNATION
---	---

Place numbers in the boxes for the characters which best describe this variety. Measured data should be the mean of an appropriate number (at least 10) of well spaced plants. Royal Horticultural Society or any recognized color standard may be used to determine plant colors.

The location of the test area is: **California** Color System Used: **Royal Horticultural Society Colour Chart**

1. PLANT TYPE: (See list of suggested check varieties page 4.)

☐ 0 ☒ 1

01=Cutting/Leaf
02=Butterhead
03=Bibb
04=Cos or Romaine

05=Great Lakes Group
06=Vanguard Group
07=Imperial Group
08=Eastern (Ithaca) Group

09=Stem
10=Latin
11=OTHER

2. SEED:

☒ 2

COLOR
1=White (Silver Gray)
2=Black (Gray Brown)
3=Brown (Amber)

☒ 1

LIGHT DORMANCY
1=Light Required
2=Light Not Required

☒ 1

HEAT DORMANCY
1=Susceptible
2=Not Susceptible

3. COTYLEDON TO FOURTH LEAF STAGE: NOTE: Provide a color photograph or photocopy of the fourth leaf from 20 day old seedling grown under optimal conditions.

☒ 2

SHAPE OF COTYLEDONS:

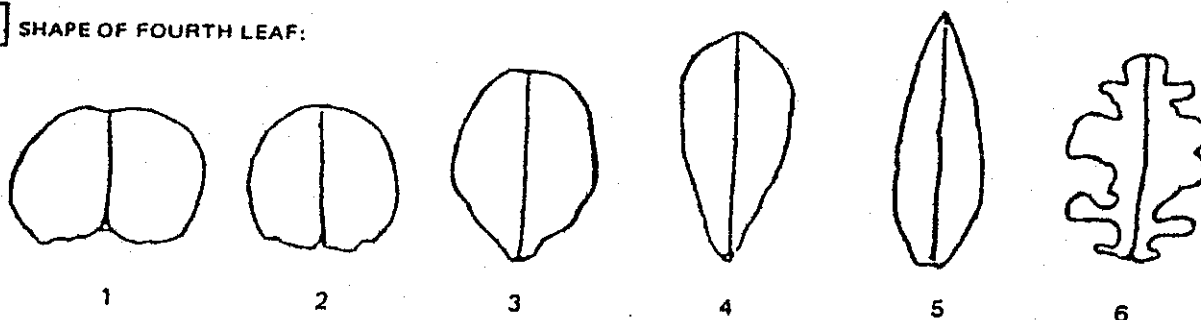
1=Broad

2=Intermediate

3=Spistulate

☒ 6

SHAPE OF FOURTH LEAF:



☒ 1 ☒ 1

LENGTH/WIDTH INDEX OF FOURTH LEAF: L/W x 10

☒ 2

APICAL MARGIN:

1=Entire

4=Moderately Dentate

7=Lobed

☒ 6

BASAL MARGIN:

2=Crenate/Gnawed
3=Finely Dentate

5=Coarsely Dentate
6=Incised

8=OTHER (specify)

☒ 4

UNDULATION:

1=Flat

2=Slight

3=Medium

4=Marked

☒ 3

GREEN COLOR:

1=Yellow Green
2=Light Green

3=Medium Green
4=Dark Green

5=Blue Green
6=Silver Green

7=Gray Green

ANTHOCYANIN:

☒ 1

DISTRIBUTION:

1=Absent
2=Margin Only

3=Spotted
4=Throughout

5=OTHER (specify)

☒ 1/2

CONCENTRATION:

1=Light

2=Moderate

3=Intense

☒ 1

ROLLING:

1=Absent

2=Present

☒ 1

CUPPING:

1=Uncupped

2=Slight

3=Markedly

☒ 1

REFLEXING:

1=None

2=Apical Margin

3=Lateral Margins

200000022

JRM
12/10/04
Replaced

4. MATURE LEAVES (observe harvest-mature outer leaves):

NOTE: Provide color photo of harvest-mature leaves which accurately shows color and margin characteristics.

MARGIN:

3	INCISION DEPTH: (deepest penetration of the margin)	1=Absent/Shallow (Dark Green Boston)	2=Moderate (Vanguard)	3=Deep (Great Lakes 659)
3	INDENTATION: (finest divisions of the margin)	1=Entire (Dark Green Boston) 2=Shallowly Dentate (Great Lakes 65)	3=Deeply Dentate (Great Lakes 659) 4=Crenate (Vanguard)	5=OTHER (specify)
3	UNDULATION OF THE APICAL MARGIN:	1=Absent/Slight (Dark Green Boston)	2=Moderate (Vanguard)	3=Strong (Great Lakes 659)
3	GREEN COLOR:	1=Very Light Green (Bibb) 2=Light Green (Minetto)	3=Medium Green (Great Lakes) 4=Dark Green (Vanguard)	5=Very Dark Green 6=OTHER
ANTHOCYANIN (grown at or below 10 C):				
1	DISTRIBUTION:	1=Absent 2=Margin Only (Big Boston)	3=Spotted (Catif, Cream Butter) 4=Throughout (Prize Head)	5=OTHER (specify)
1/26	CONCENTRATION:	1=Light (Iceberg)	2=Moderate (Prize Head)	3=Intense (Ruby)
1	SIZE:	1=Small	2=Medium	3=Large
3	GLOSSINESS:	1=Dull (Vanguard)	2=Moderate (Salinas)	3=Glossy (Great Lakes)
1	BLISTERING:	1=Absent/Slight (Salinas)	2=Moderate (Vanguard)	3=Strong (Prize Head)
2	LEAF THICKNESS:	1=Thin	2=Intermediate	3=Thick
1	TRICHOMES:	1=Absent (smooth)	2=Present (spiny)	

5. PLANT (at market stage. Choose a comparison variety appropriate for this type.):

3	7	SPREAD OF FRAME LEAVES:	3	9	cm This Variety	cm Tango	(specify comparison variety)	
3	7	HEAD DIAMETER (market trimmed with single cap leaf):	3	9	cm This Variety	cm Tango	(specify comparison variety)	
5		HEAD SHAPE:	1=Flattened 2=Slightly Flattened	3=Spherical 4=Elongate	5=Non-Heading 6=OTHER			
1		HEAD SIZE CLASS:	1=Small	2=Medium	3=Large			
4/8/26		HEAD COUNT PER CARTON						
4	0	0	HEAD WEIGHT:	4	0	8	g This Variety	g Tango
								(specify comparison variety)
1			HEAD FIRMNESS:	1=Loose 2=Moderate	3=Firm 4=Very Firm			

6. BUTT (bottom of market-trimmed head):

2	SHAPE:	1=Slightly Concave	2=Flat	3=Rounded
1	MIDRIB:	1=Flattened (Salinas)	2=Moderately Raised	3=Prominently Raised (Great Lakes 659)

7. CORE (stem of market-trimmed head):

3	0	mm Diameter at base of head				
1	2	3	Ratio of head diameter/core diameter			
2	7	Core height from base of head to apex:				
		mm This Variety	2	6	mm Tango	(specify comparison variety)

8. BOLTING (Give First Water Date May 10):

NOTE: First Water Date is the date seed first receives adequate moisture to germinate. This can and often does equal the planting date.

4	8	Number of days from First Water Date to seed stalk emergence (summer conditions):					
		This Variety	4	6	Tango	(specify comparison variety)	
5		BOLTING CLASS:	1=Very Slow 2=Slow	3=Medium 4=Rapid	5=Very Rapid		
1	1	2	Height of mature seed stalk:				
		cm This Variety	1	0	3	cm Tango	(specify comparison variety)

200000022

Spread of Bolter Plant (at widest point):
 6 4 cm This Variety 4 9 cm Tango (specify comparison variety)

1 BOLTER LEAVES: 1=Straight 2=Curved

2 MARGIN: 1=Entire 2=Dentate

2 COLOR: 1=Light Green 2=Medium Green 3=Dark Green

BOLTER HABIT:

2 TERMINAL INFLORESCENCE: 1=Absent 2=Present

1 LATERAL SHOOTS: (above head) 1=Absent 2=Present

1 BASAL SIDE SHOOTS: 1=Absent 2=Present

9. MATURITY (earliness of harvest-mature head formation):

NOTE: Complete this section for at least one season.

SEASON	Applic. 1/ #of days	Check 2/ #of days	CHECK VARIETY 2/
Spring	1 0 1	9 9	Tango
Summer			
Fall			
Winter			

Give planting date(s), and location(s):

Spring January 6, 1999 Aromas, CA

Summer

Fall

Winter

1/ First water date to harvest. 2/ Fill in check variety name on the appropriate line.

10. ADAPTATION:

PRIMARY REGIONS OF ADAPTION (tested and proven adapted): (0=Not tested 1=Not Adapted 2=Adapted)

2 Southwest (Calif., Ariz. desert) 2 West Coast 0 Northeast

0 Northcentral 0 Southeast OTHER

SEASON:

2 Spring (area West Coast) 2 Fall (area West Coast)

2 Summer (area West Coast) 2 Winter (area South West)

0 GREENHOUSE: 0=Not tested 1=Not Adapted 2=Adapted

1 SOIL TYPE: 1=Mineral 2=Organic 3=Both

11. DISEASES AND STRESS REACTIONS (0=Not tested; 1=Susceptible; 2=Intermediate; 3=Resistant; 4=Highly resistant; 5=Tolerant):

VIRUS

- ☐ Big Vein
☒ Lettuce Mosaic
☐ Cucumber Mosaic
☐ Broad Bean Wilt
☐ Turnip Mosaic
☐ Beet Western Yellows
☐ Lett. Infectious Yellows
☐ Other Virus _____

FUNGAL/BACTERIAL

- ☐ Corky Root Rot (Pythium Root Rot)
☒ Downy Mildew (Races I, IIA, IIB, III, IV, V)
☐ Powdery Mildew
☐ Sclerotinia Rot
☐ Bacterial Soft Rot (Pseudomonas spp. & others)
☐ Botrytis (Gray Mold)
☐ OTHER _____

INSECTS

- ☐ Cabbage Loopers
☐ Root Aphids
☒ Green Peach Aphid
☐ Other Insect _____

PHYSIOLOGICAL/STRESS

- ☐ Tipburn
☒ Heat
☐ Drought
☒ Cold
☐ Salt
☐ Brown Rib (Rib Discoloration, Rib Blight)
☐ OTHER _____

POST HARVEST

- ☐ Pink Rib
☐ Russet Spotting
☐ Rusty Brown Discoloration
☐ Internal Rib Necrosis (Blackheart, Gray Rib, Gray Streak)
☐ Brown Stain

12. BIOCHEMICAL OR ELECTROPHORETIC MARKERS:

13. COMMENTS:

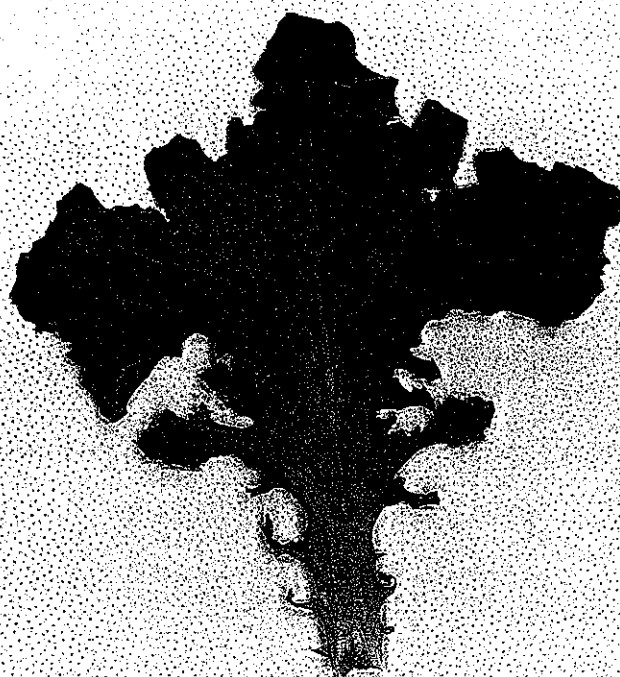
SUGGESTED CHECK VARIETIES

- | TYPE | CHECK VARIETY |
|----------------------|---------------------|
| 1) CUTTING/LEAF | SALAD BOWL |
| 2) BUTTERHEAD | DARK GREEN BOSTON |
| 3) BIBB | BIBB |
| 4) COS, OR ROMAINE | PARRIS ISLAND |
| 5) GREAT LAKES GROUP | GREAT LAKES 659-700 |
| 6) VANGUARD GROUP | VANGUARD |
| 7) IMPERIAL GROUP | VIVA |
| 8) EASTERN GROUP | ITHACA |
| 9) STEM | CELTUCE |
| 10) LATIN | MATCHLESS |

200000022

EXHIBIT C - Item 3

Fourth leaf , 20 day old seedling



200000022

EXHIBIT C - Item 4

Harvest mature leaf



**EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP**

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S)

Mission Ranches

2. TEMPORARY DESIGNATION
OR EXPERIMENTAL NUMBER

Tango DMR

3. VARIETY NAME

Calypso
Avator

4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)

100 Broadway
King City, CA 93930 USA

5. TELEPHONE (include area code)
(831) 385-1263

6. FAX (include area code)
(831) 385-3340

7. PVPO NUMBER

200000022

8. Does the applicant own all rights to the variety? Mark an "X" in appropriate block. If no, please explain.

☒ YES

☐ NO

9. Is the applicant (individual or company) a U.S. national or U.S. based company?
If no, give name of country

☒ YES

☐ NO

10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer the following:

a. If original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. national(s)?

☐ YES

☐ NO If no, give name of country

b. If original rights to variety were owned by a company, is the original owner(s) a U.S. based company?

☐ YES

☐ NO If no, give name of country

11. Additional explanation on ownership (If needed, use reverse for extra space):

PLEASE NOTE:

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact the USDA Office of Communications at (202) 720-5881 (voice) or (202) 720-7808 (TDD). To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call 1-800-245-6340 (voice) or (202) 720-1127 (TDD). USDA is an equal employment opportunity employer.